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For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: **AFLP-BASED METHOD FOR INTEGRATING PHYSICAL AND GENETIC MAPS**

(57) Abstract: The invention pertains to a method for the integration of physical and genetic maps and markers. The method is based on the use of AFLP fingerprinting with primers of varying selectivity on a library of artificial chromosomes such as a BAC library. The fingerprinting is performed on the individual BACs and on the pools of BACs. Subsequent alignment generates a contig and provides the integration of physical and genetic markers resulting in the integration of the physical and genetic map.

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INTERNATIONAL SEARCH REPORT

International Application No
NL2004/000017

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C12Q1/68

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 C12Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, BIOSIS, MEDLINE, EMBASE, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>KLEIN PATRICIA E ET AL: "A high-throughput AFLP-based method for constructing integrated genetic and physical maps: Progress toward a sorghum genome map." GENOME RESEARCH, vol. 10, no. 6, June 2000 (2000-06), pages 789-807, XP002240094 ISSN: 1088-9051 cited in the application page 793, left-hand column, paragraph 2 - page 797, left-hand column, paragraph 1 - page 803, left-hand column, paragraph 1 - page 806, left-hand column, paragraph 1 figures 2,4-7</p> <p style="text-align: center;">----- -/--</p>	1-3,5-14

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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O document referring to an oral disclosure, use, exhibition or other means

P document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

& document member of the same patent family

Date of the actual completion of the international search

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INTERNATIONAL SEARCH REPORT

International Application No
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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 0 534 858 A (KEYGENE NV) 31 March 1993 (1993-03-31) cited in the application the whole document	1-14
A	VOS P ET AL: "AFLP: A NEW TECHNIQUE FOR DNA FINGERPRINTING" NUCLEIC ACIDS RESEARCH, OXFORD UNIVERSITY PRESS, SURREY, GB, vol. 23, no. 21, 1995, pages 4407-4414, XP000939214 ISSN: 0305-1048 cited in the application the whole document	1-14

INTERNATIONAL SEARCH REPORT

International application No.

PCT/NL2004/000017

Box No. I Nucleotide and/or amino acid sequence(s) (Continuation of Item 1.b of the first sheet)

1. With regard to any nucleotide and/or amino acid sequence disclosed in the International application and necessary to the claimed invention, the international search was carried out on the basis of:

a. type of material

☒

a sequence listing

☐

table(s) related to the sequence listing

b. format of material

☐

in written format

☒

in computer readable form

c. time of filing/furnishing

☐

contained in the international application as filed

☐

filed together with the international application in computer readable form

☒

furnished subsequently to this Authority for the purpose of search

2. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

3. Additional comments:

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

NL2004/000017

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 0534858	A	31-03-1993	EP 0534858 A1	31-03-1993
			EP 0969102 A2	05-01-2000
			GR 3033895 T3	30-11-2000
			AT 191510 T	15-04-2000
			AU 672760 B2	17-10-1996
			AU 2662992 A	27-04-1993
			CA 2119557 A1	01-04-1993
			CZ 9400669 A3	15-12-1994
			CZ 291877 B6	18-06-2003
			DE 69230873 D1	11-05-2000
			DE 69230873 T2	09-11-2000
			DK 534858 T3	11-09-2000
			WO 9306239 A1	01-04-1993
			ES 2147550 T3	16-09-2000
			FI 941360 A	24-05-1994
			FI 20031526 A	17-10-2003
			HU 68504 A2	28-06-1995
			JP 6510668 T	01-12-1994
			JP 3236295 B2	10-12-2001
			JP 2001061486 A	13-03-2001
			NO 941064 A	20-05-1994
			PT 534858 T	29-09-2000
			RU 2182176 C2	10-05-2002
			US 6045994 A	04-04-2000
			ZA 9207323 A	30-08-1993